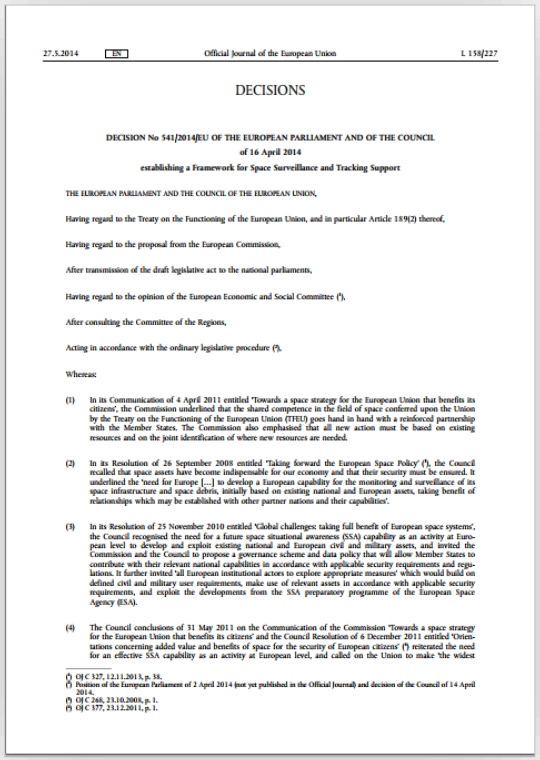
EU Space Surveillance & Tracking – Security and Data Policy

Marc Becker (DLR) & Dr Pascal Faucher (CNES)
EU SST Consortium

71st International Astronautical Congress, 12-14 October 2020
E9.1-A6.8 – IAF Symposium on Space Security
Session 1. Policy, Legal, Institutional and Economic Aspects of Space Debris Detection, Mitigation and Removal

Overview

Decision of the European Parliament and of the Council of 16 April 2014 establishing a Support Framework for Space Surveillance and Tracking (Dec. 541)



27.5.2014 EN Official Journal of the European Union L 158/227

DECISIONS

DECISION No 541/2014/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 16 April 2014
establishing a Framework for Space Surveillance and Tracking Support

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 189(2) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee (1),

After consulting the Committee of the Regions,

Acting in accordance with the ordinary legislative procedure (2),

Whereas:

(1) In its Communication of 4 April 2011 entitled 'Towards a space strategy for the European Union that benefits its citizens', the Commission underlined that the shared competence in the field of space conferred upon the Union by the Treaty on the Functioning of the European Union (TFEU) goes hand in hand with a reinforced partnership with the Member States. The Commission also emphasised that all new action must be based on existing resources and on the joint identification of where new resources are needed.

(2) In its Resolution of 26 September 2008 entitled 'Taking forward the European Space Policy' (3), the Council recalled that space assets have become indispensable for our economy and that their security must be ensured. It underlined the 'need for Europe [...] to develop a European capability for the monitoring and surveillance of its space infrastructure and space debris, initially based on existing national and European assets, taking benefit of relationships which may be established with other partner nations and their capabilities'.

(3) In its Resolution of 25 November 2010 entitled 'Global challenges: taking full benefit of European space systems', the Council recognised the need for a future space situational awareness (SSA) capability as an activity at European level to develop and exploit existing national and European civil and military assets, and invited the Commission and the Council to propose a governance scheme and data policy that will allow Member States to contribute with their relevant national capabilities in accordance with applicable security requirements and regulations. It further invited 'all European institutional actors to explore appropriate measures' which would build on defined civil and military user requirements, make use of relevant assets in accordance with applicable security requirements, and exploit the developments from the SSA preparatory programme of the European Space Agency (ESA).

(4) The Council conclusions of 31 May 2011 on the Communication of the Commission 'Towards a space strategy for the European Union that benefits its citizens' and the Council Resolution of 6 December 2011 entitled 'Orientations concerning added value and benefits of space for the security of European citizens' (4) reiterated the need for an effective SSA capability as an activity at European level, and called on the Union to make 'the widest

(1) OJ C 327, 12.11.2013, p. 38.
(2) Position of the European Parliament of 2 April 2014 (not yet published in the Official Journal) and decision of the Council of 14 April 2014.
(3) OJ C 268, 23.10.2008, p. 1.
(4) OJ C 377, 23.12.2011, p. 1.

Our goals:

- Ensure **resilience** of European space infrastructure
- Higher level of **strategic autonomy**
- Global SSA burden-sharing

We are **operational**: sensor network, database, services, users

We are **security** relevant: security and data sharing

We mature and expand: upcoming **EU Space Programme**

We are the precursor of a European **Space Traffic Management** system

Governance: Consortium

EU SST Consortium:

8 EU Member States (since 2015, France, Germany, Italy, Spain, United Kingdom, and since 2019, Poland, Portugal, Romania)

Cooperation with **EU SatCen** as Frontdesk

Overseen by **European Commission**

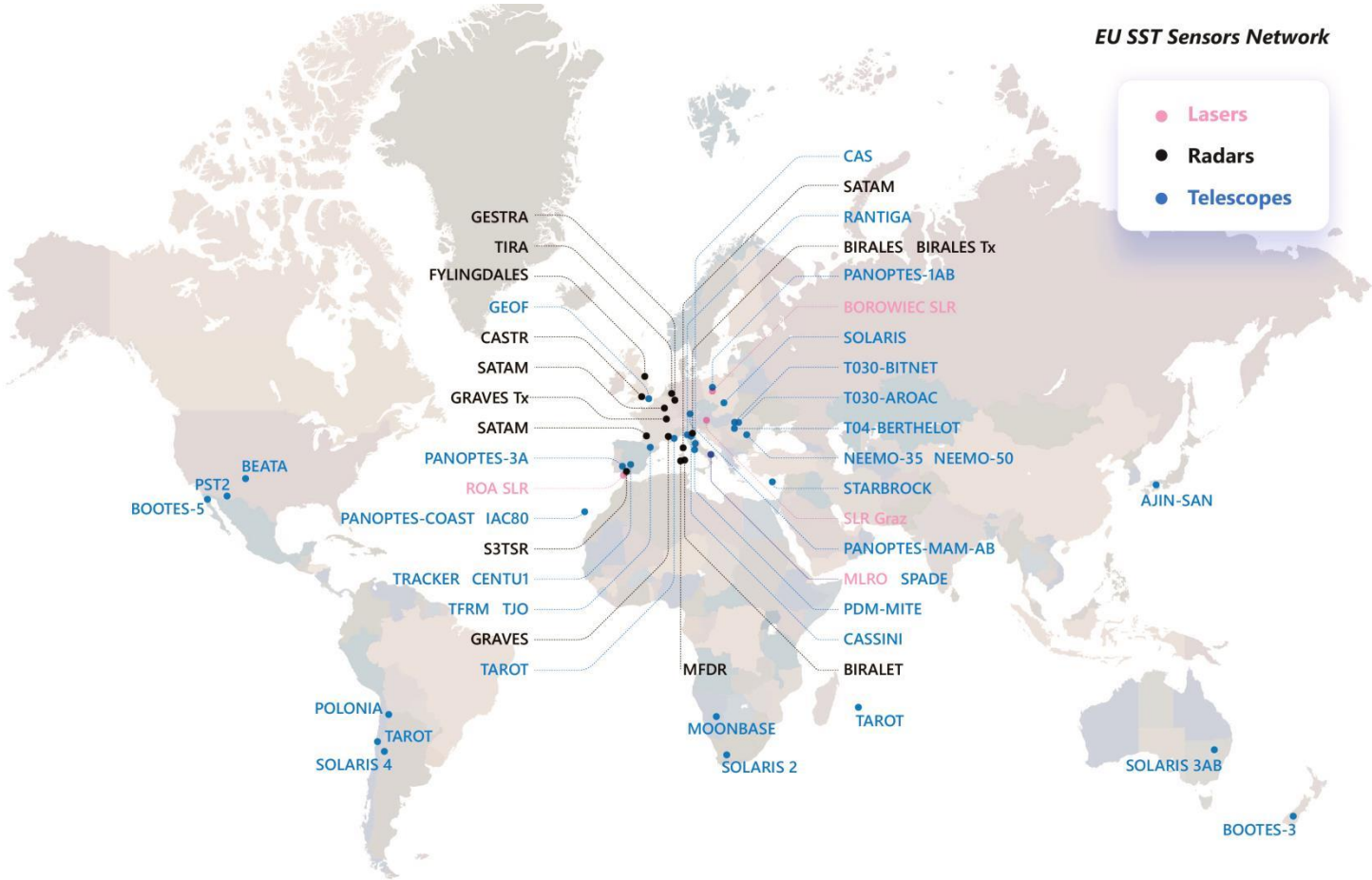
Operations: Sensors

12 Radars
(4 surveillance, 8 tracking)

34 Telescopes (18 surveillance, 16 tracking)

4 Lasers

Operations: Sensors

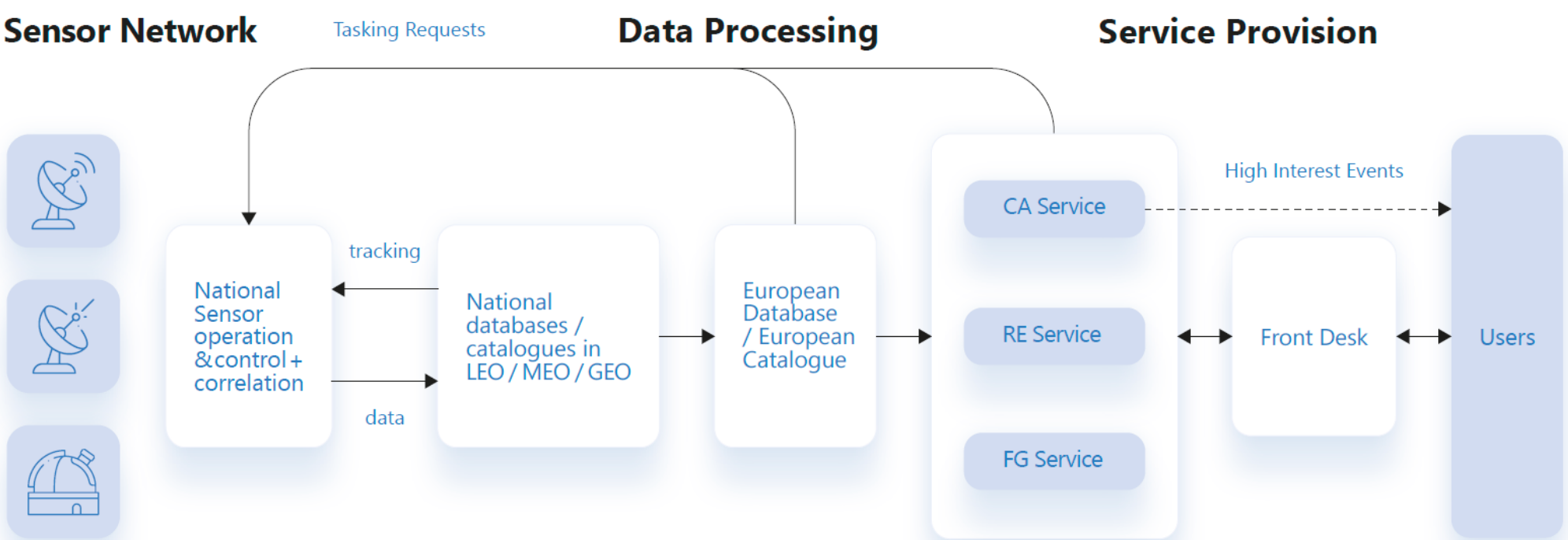


12 Radars
(4 surveillance, 8 tracking)

34 Telescopes (18 surveillance, 16 tracking)

4 Lasers

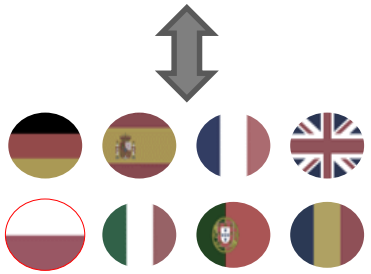
Operations: Service Provision



Towards a European Catalogue

European Database
(measurement data)

Operational since 1st April 2019



Measurements from MS sensors

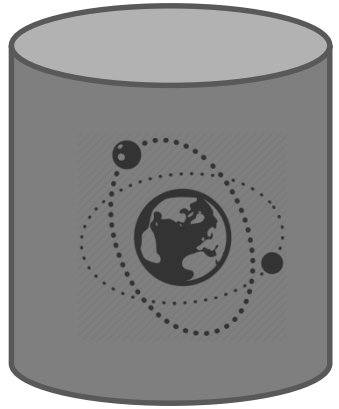
Database as starting point for catalogue building and maintenance

Database: joint platform for efficient data sharing and sensor tasking

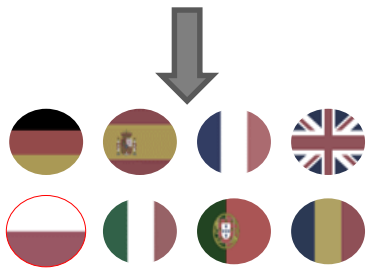
Catalogue:

- Measurement data from the Database will be pre-processed, analysed, and correlated
- Correlated measurements will be used to determine and refine the orbit of objects

European Catalogue
(orbit data)

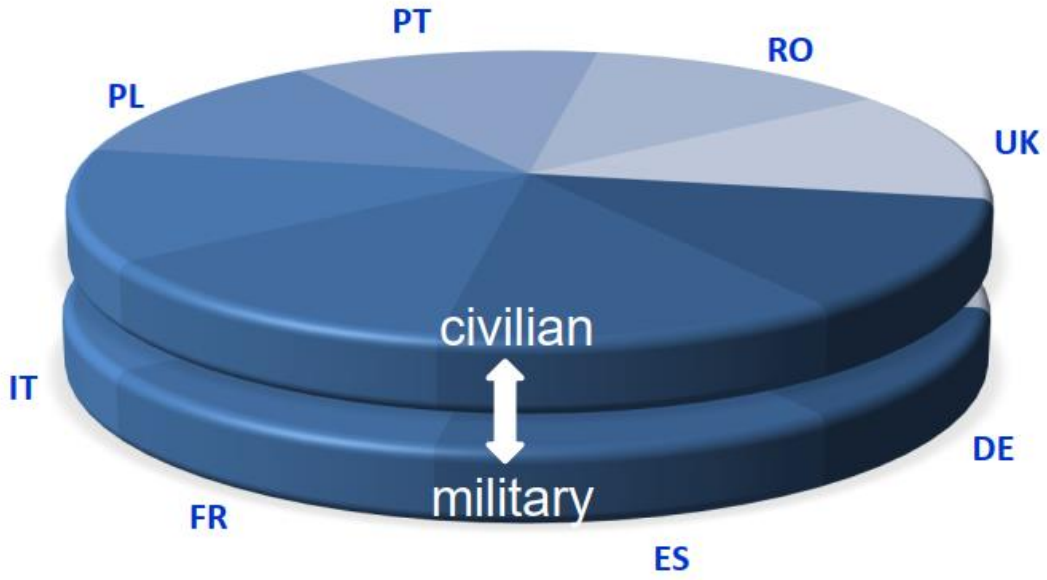


Initial development & operation from 2019 to Dec. 2021



MS Operations Centres will use the European Catalogue

Governance: Security



Dual dimension of SSA

Collaboration between civilian, military and security actors

Contributing sensors remain under control of Member States

Precise data and information on certain space objects may be sensitive

Security and Data Policy

The Member States of the Consortium created a Security Committee that oversees all matters relating to data security and operational risk

EU SST deals with the security interests of the respective partners and their allies through an internal Data Policy

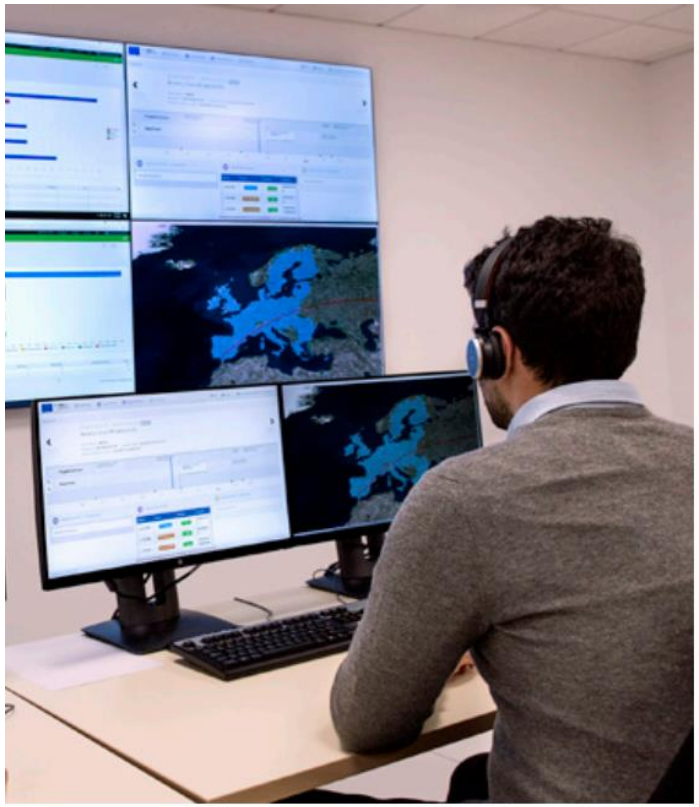
The EU SST Security Committee provides classification guidance and develops security requirements that cover for instance how EU SST protects sensitive information such as data on allied space objects

Security and Data Policy

Need to consider the existing architecture of bilateral SSA sharing agreements in Europe:

- All 8 Consortium MS concluded bilateral SSA sharing agreements with the US, covering the bilateral exchange of unclassified SSA and SST data
- Some MS have concluded or are working on additional bilateral agreements with the US or with each other
- These agreements are typically concluded at the level of the ministries of defence and are therefore not within the remit of the Consortium but the prerogative of the individual partners' national security stakeholders

Conclusion

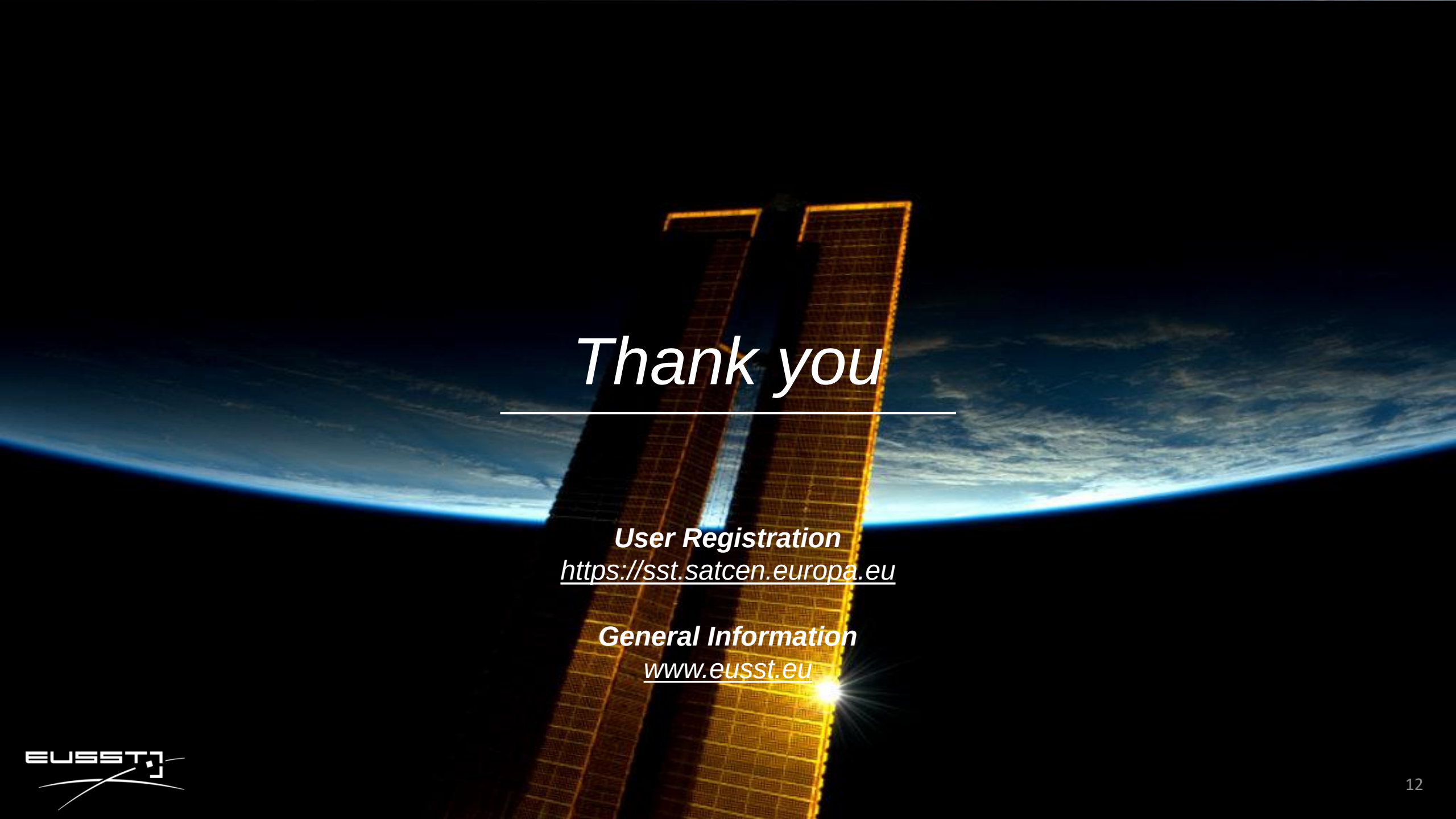


EU SST as…

Working example of **multilateral cooperation** at the intersection of space safety and space security

Important **R&D** activity to improve performance and strategic autonomy at European level

Fundamental **operational capability** in Europe, precursor of a European Space Traffic Management system



Thank you

User Registration
https://sst.satcen.europa.eu

General Information
www.eusst.eu